WHAT IS CLAIMED IS:

1. A peripheral length adjusting apparatus for an endless metallic ring in which an endless metallic ring is wound on plural rollers, and an interval between the plural rollers is enlarged such that the endless metallic ring is stretched while the plural rollers are rotated, whereby the endless metallic ring is plastically deformed and a peripheral length of the endless metallic ring is adjusted to a target peripheral length, comprising:

a peripheral length measuring device which measures the peripheral length of the endless metallic ring before the peripheral length is adjusted; and

an adjusting device which adjusts the peripheral length of the endless metallic ring to the target peripheral length by enlarging the interval between the rollers based on the measured peripheral length such that the peripheral length of the endless metallic ring when the peripheral length is adjusted is longer than the target peripheral length by a contraction amount due to elastic deformation of the endless metallic ring after the peripheral length is adjusted.

2. The peripheral length adjusting apparatus for an endless metallic ring according to claim 1, wherein the adjusting device adjusts the peripheral length of the endless metallic ring to the target peripheral length by enlarging the interval between the rollers based on a rate of the contraction amount due to elastic deformation of the endless metallic ring after the peripheral length is adjusted with respect to the peripheral length of the endless metallic ring before the peripheral length is adjusted, the rate of the contraction amount having being obtained in advance.

3. The peripheral length adjusting apparatus for an endless metallic ring according to claim 2, further comprising:

a volume measuring device which measures a volume of the endless metallic ring before the peripheral length is adjusted; and

a changing device which changes the rate of the contraction amount based on the measured volume.

4. The peripheral length adjusting apparatus for an endless metallic ring according to claim 2, further comprising:

a temperature measuring device which measures a temperature of the endless metallic

ring when the peripheral length is adjusted; and

a changing device which changes the rate of the contraction amount based on the measured temperature.

5. The peripheral length adjusting apparatus for an endless metallic ring according to claim 2, wherein the peripheral length measuring device measures the peripheral length of the endless metallic ring after the peripheral length is adjusted, and the peripheral length adjusting apparatus further comprises a changing device which changes the rate of the contraction amount based on a difference between the measured peripheral length and the target peripheral length.

6. The peripheral length adjusting apparatus for an endless metallic ring according to claim 2, wherein the peripheral length measuring device measures the peripheral length of the endless metallic ring after the peripheral length is adjusted, and the peripheral length adjusting apparatus further comprises a correcting device which corrects, based on a difference between the measured peripheral length and the target peripheral length, the interval between the rollers when the peripheral length is adjusted, the interval having being calculated considering the target peripheral length, and at least one of the contraction amount and the rate of the contraction amount.

7. A peripheral length adjusting method for an endless metallic ring in which an endless metallic ring is wound on plural rollers, and an interval between the plural rollers is enlarged such that the endless metallic ring is stretched while the plural rollers are rotated, whereby the endless metallic ring is plastically deformed and a peripheral length of the endless metallic ring is adjusted to a target peripheral length, comprising the following steps of:

measuring the peripheral length of the endless metallic ring before the peripheral length is adjusted; and

adjusting the peripheral length of the endless metallic ring to the target peripheral length by enlarging the interval between the rollers based on the measured peripheral length such that the peripheral length of the endless metallic ring when the peripheral length is adjusted is longer than the target peripheral length by a contraction amount due to elastic deformation of the endless metallic ring after the peripheral length is adjusted.

8. The peripheral length adjusting method for an endless metallic ring according to claim 7, further comprising the following step of:

adjusting the peripheral length of the endless metallic ring to the target peripheral length by enlarging the interval between the rollers based on a rate of the contraction amount due to elastic deformation of the endless metallic ring after the peripheral length is adjusted with respect to the peripheral length of the endless metallic ring before the peripheral length is adjusted, the rate of the contraction amount having being obtained in advance.

9. The peripheral length adjusting method for an endless metallic ring according to claim 8, further comprising the following steps of:

measuring a volume of the endless metallic ring before the peripheral length is adjusted; and

changing the rate of the contraction amount based on the measured volume.

10. The peripheral length adjusting method for an endless metallic ring according to claim 8, further comprising the following steps of:

measuring a temperature of the endless metallic ring when the peripheral length is adjusted; and

changing the rate of the contraction amount based on the measured temperature.

11. The peripheral length adjusting method for an endless metallic ring according to claim 8, further comprising the following steps of:

measuring the peripheral length of the endless metallic ring after the peripheral length is adjusted; and

changing the rate of the contraction amount based on a difference between the measured peripheral length and the target peripheral length.

12. The peripheral length adjusting method for an endless metallic ring according to claim 8, further comprising the following steps of:

measuring the peripheral length of the endless metallic ring after the peripheral length is adjusted;

and correcting, based on a difference between the measured peripheral length and the target peripheral length, the interval between the rollers when the peripheral length is adjusted, the interval having being calculated considering the target peripheral length, and

at least one of the contraction amount and the rate of the contraction amount.